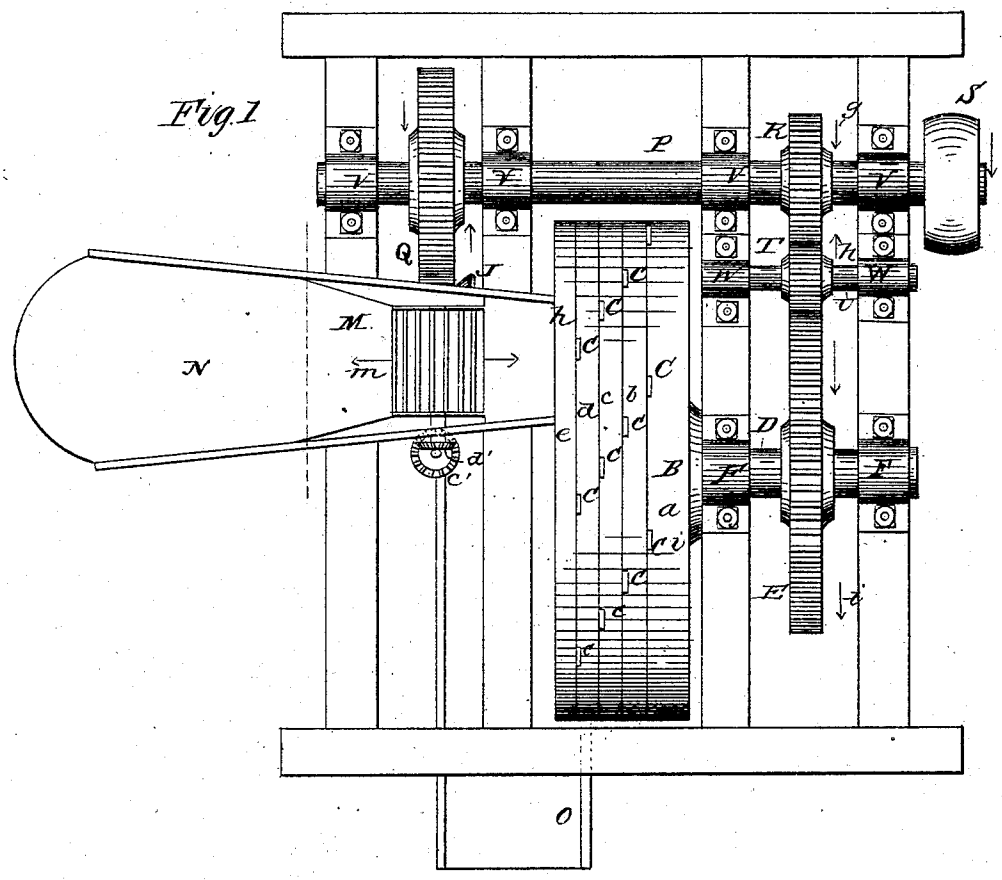
(No Model.) 3 Sheets—Sheet 1.

J. J. JOHNSTON.

FODDER CUTTER.

No. 273,237. Patented Feb. 27, 1883.

Fig. 1



WITNESSES:

Fred. L. Dieterich.

W. E. Bowen.

INVENTOR.

James J. Johnston

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

J. J. JOHNSTON.

FODDER CUTTER.

No. 273,237. Patented Feb. 27, 1883.

Fig. 2.

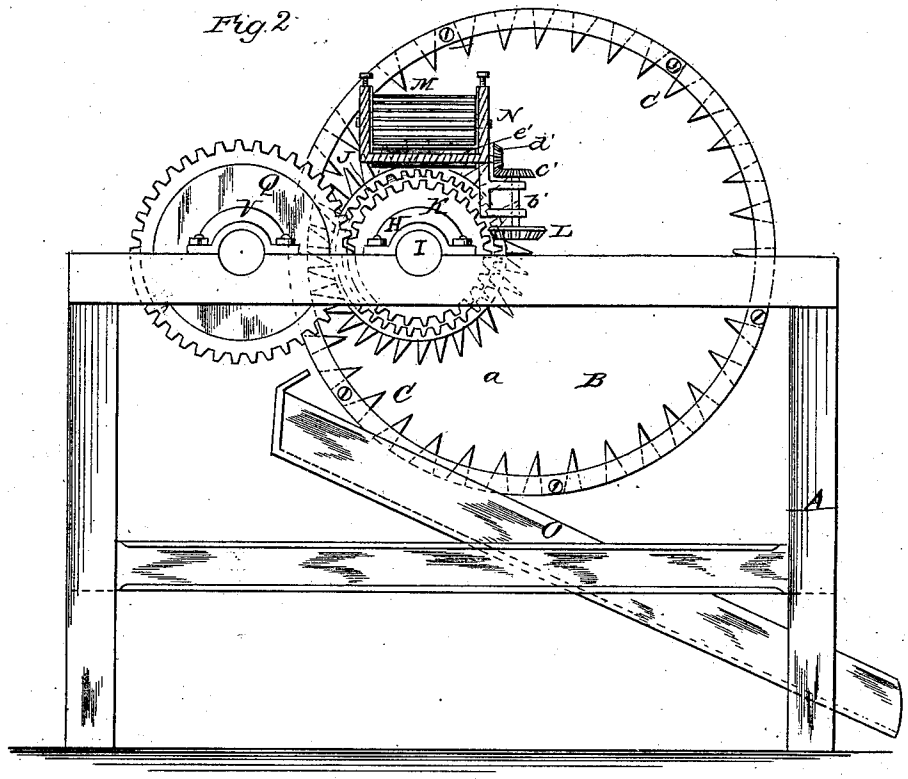
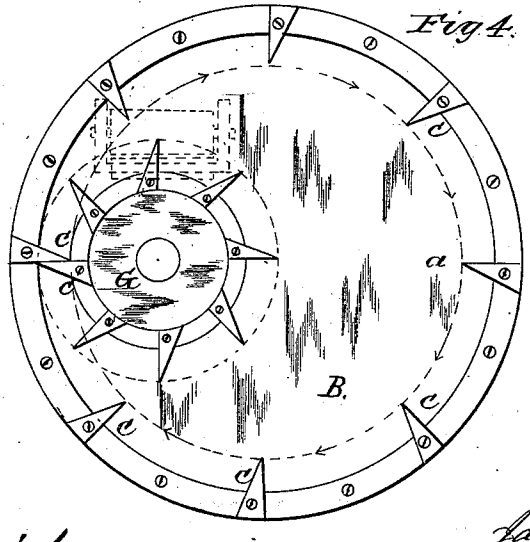


Fig 4.



WITNESSES:

Fred. L. Dieterich.

W. E. Bowen.

INVENTOR.

James J. Johnston

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

J. J. JOHNSTON.

FODDER CUTTER.

No. 273,237. Patented Feb. 27, 1883.

Fig. 3

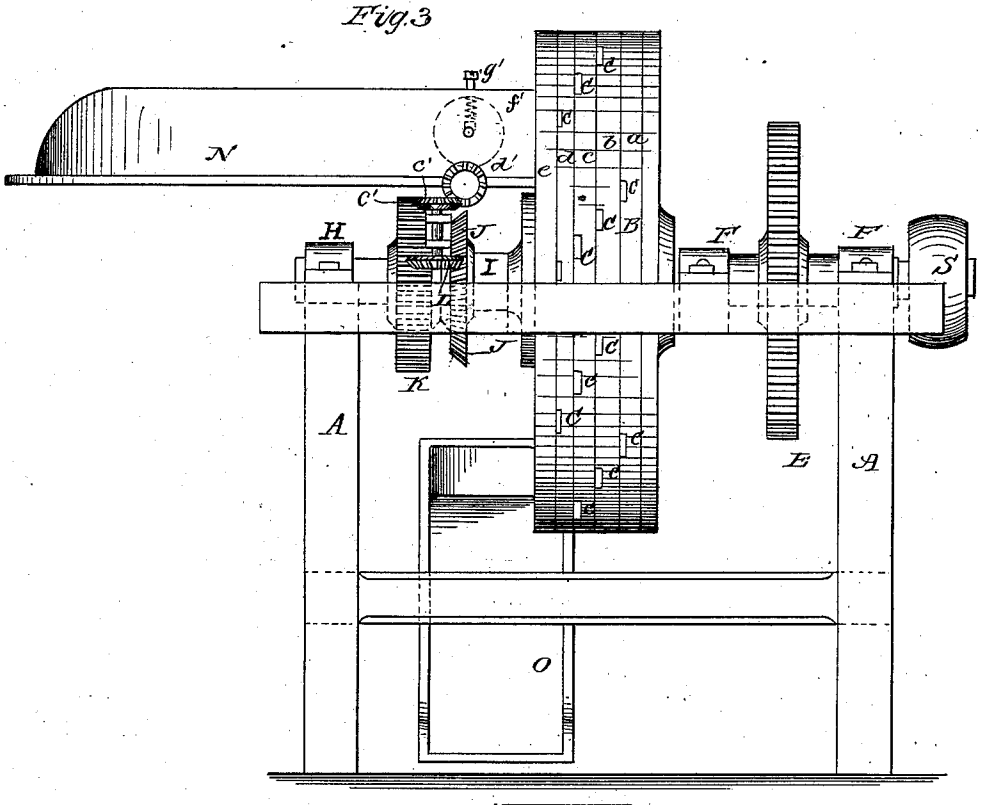


Fig. 5.

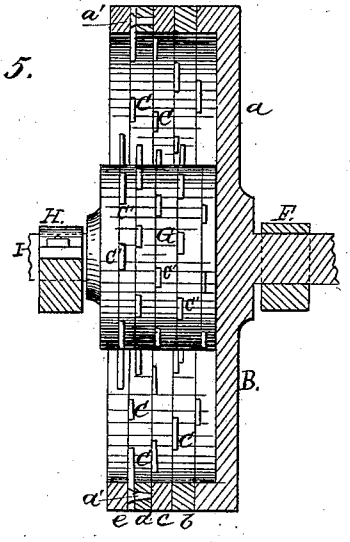
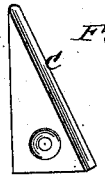


Fig. 6.



WITNESSES:

Fred. L. Dieterich.

W. E. Bowen.

INVENTOR.

James J. Johnston

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES J. JOHNSTON, OF COLUMBIANA, OHIO, ASSIGNOR TO THE UNITED STATES IMPROVEMENT COMPANY, (LIMITED,) OF SAME PLACE.

FODDER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 273,237, dated February 27, 1883.

Application filed February 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. JOHNSTON, of Columbiana, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Fodder-Mills for the Cutting and Chopping of Fodder for Live Stock; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in mills for the cutting and chopping of cornstalks and other articles for fodder for live stock; and it consists of two hollow cylinders of different diameters, each having an open end, the greater having cutters projecting inwardly from its inner wall, and the smaller one having cutters projecting outwardly from its outer wall and placed within the larger cylinder, said cylinders revolving in opposite directions and combined with driving-gear and feeding mechanism, all of which will hereinafter more fully and at large appear.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of this specification, Figure 1 is a top view or plan of my improvement in mills for cutting and chopping fodder for live stock. Fig. 2 is a side view of the same. Fig. 3 is an end view of the same. Fig. 4 is a diagram of the cylinders, representing their relation to each other. Fig. 5 is a vertical section of the larger cylinder, representing the smaller one arranged therein. Fig. 6 is a detached view in perspective of one of the cutters.

Reference being had to the accompanying drawings, A represents the frame of the mill, and B a hollow cast-iron cylinder consisting of a flanged disk, *a*, and a series of rings, *b c d e*, the flange of the disk *a* and the rings *b c d* having recesses therein for the reception of cutters C, held in the recesses in the flanged disk *a* by means of the ring *b*, and in the recesses in the ring *b* by the ring *c*, and in the recesses in ring *c* by the ring *d*, and in recesses of ring *d* by the ring *e*. The ring *b* is secured to the flanged disk *a*, and the rings *b c d e* are consecutively secured to each other by means of screws, as indicated in Figs. 2 and 4. The axle or shaft D of the cylinder B is furnished with a wheel, E, and journaled in bearings F.

The small cylinder G is constructed in the same manner as the cylinder B, and the cutters C′ held similarly therein, with the exception that they project outwardly from said cylinder. The axle or shaft I of cylinder G is journaled in bearings H, and furnished with wheels J K, the beveled wheel J meshing into a beveled wheel, L, on the axle or shaft *b′*, carrying on its upper end a beveled wheel, *c′*, which meshes with a beveled wheel, *d′*, on the axle or shaft of the under feed-roller, *e′*. The corrugated feed-roller M of the hopper N is journaled in spring-bearings *f′*, the tension of which is regulated by adjusting-screws *g′*. The small cylinder G is placed within the cylinder B, and its relation and that of the feed end of the hopper to the interior of the cylinder B is clearly shown in Figs. 1 and 2.

To the frame A, directly under the cylinder B, is arranged a chute, O, (shown in Figs. 1, 2, and 3,) and is used for the purpose of carrying off the chopped fodder as it falls from the cylinders B and G. The shaft P is journaled in bearings V, and is furnished with wheels Q R and driving-pulley S, the wheel R meshing into a wheel, T, on shaft U, journaled in bearings W.

The construction, arrangement, and relation that the several parts bear to each other will be readily understood from the foregoing description, reference being had to the accompanying drawings. I will therefore proceed to describe its operation, which is as follows: The fodder to be cut and chopped is placed in the hopper N, and power applied to the pulley S, which will revolve the shaft P and wheels Q R in the direction indicated by the arrows *g*, which will revolve the wheels J K, cylinder G, wheel T, and shaft U in the direction indicated by the arrows *h*, and the wheel T will revolve the wheel E and cylinder B in the direction indicated by the arrows *i*, and the wheel J will revolve the wheel L and corrugated feed-roller *e′*, and, through the medium of beveled wheels *c′ d′* and the frictional con-

tact of the rollers with each other, the roller *m* will be revolved in the direction indicated by the arrows *m*. The fodder to be cut and chopped is placed in the hopper N and pressed forward until the corrugated feed-rollers *e'* M commence to draw it forward, forcing it into the cylinder B, where the first outer series of cutters C C' will cut the fodder, which, falling into the cylinder B, will be brought in contact with the cutters of the cylinders B and G.

By the arrangement of driving-gear hereinbefore described the cylinders B and G are revolved in different directions and at different rates of speed, whereby the fodder fed into the interior of the cylinder B by the corrugated feed-rollers *e'* M is cut and rapidly chopped very fine by the cutters C and C' of the cylinders B and G, which cutters, having their cutting-edges traveling toward each other, will cut and chop the fodder with great rapidity without liability of choking or clogging the mill, which cut and chopped fodder, accumulating in the center of the cylinder B, is gradually crowded out through its open end and falls from the cylinder B onto the chute O, which carries it off from the mill.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fodder cutting and chopping mill, two hollow cylinders of different diameters arranged one within the other, one having cutters on its inner side wall, and the other having cutters on its outer side wall, said cylinders traveling in opposite directions and at different rates of speed, in combination with a feeding and driving mechanism, substantially as and for the purpose set forth.

2. In a fodder cutting and chopping mill, the combination of the hollow cylinders B G, consisting of flanged disks *a*, rings *b c d e*, and cutters C C', said cylinders arranged one within the other and traveling in opposite directions, substantially as herein described.

3. In a fodder cutting and chopping mill, the combination of the hollow cylinders B G, armed with cutters C C', and traveling in opposite directions, hopper N, having corrugated feed-rollers *e'* M, and driving mechanism, substantially as herein described.

JAMES J. JOHNSTON.

Witnesses:
T. D. D. OURAND,
FRED G. DIETRICH.